Determination of Public Land (Rangeland) Health for 64093 WALNUT CREEK

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the Walnut Creek allotment #64093 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard will not be addressed.

/s/ T. R. KREAGER	09/09/2004
Assistant Field Manager	Date

Standards of Public Land Health
Evaluation of 64093 WALNUT CREEK Allotment
[07/27/2004]

The Roswell Office conducted rangeland health assessments at one study site within the Walnut Creek Allotment #64093. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64093-IDSU-A174 (*)	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the public land on the Walnut Creek allotment #64093. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on one location were utilized to assess the rangeland health of the public land within the allotment. This allotment is in the "C" (custodial) category due to the small amount of public land present.

Less than favorable climatic conditions have impacted this allotment and surrounding areas over the last several years. The site was last inventoried in 1991 and is classified as a Loamy SD-3 ecological site on 240 acres/109 hectares. The soil is a Reakor series which formed in alluvium on uplands and valley fans. The slopes are 0-3 percent with elevations between 3,300 ft/1000 m and 3,900 ft/1182 m.

Indicators of concern on this site are bareground, functional/structural groups, litter amount, annual production and invasive plants. Bareground rated Moderate to Extreme as current estimates were recording 60-70 percent, exceeding the upper end of the range expected. Large patches denuded of vegetation were observed suggesting drought influences rather than animal use. No evidence of livestock use is currently seen. Infiltration rates remain only slightly affected and runoff is minimum. Erosion remains minimal as well as the soil site stability tests show slow melting of interspace soil samples. Functional/structural groups rates Moderate. Blue grama (Bouteloua gracilis) and Hall's panicum (Panicum hallii) are missing along with sand dropseed (Sporobolus cryptandrus). Tobosa (Pleuraphis mutica) in the swales and burrograss (Scleropogon brevifolius) on the upland remain however, with the perennial forb component comprised of hog potato (Hoffanseggia glandulosa) and croton (Croton spp.). Litter amount rating Moderate is now estimated at 10-15% falling in the bottom end of the range expected.

Annual production now is 40% of potential and 50 percent of the long-term average. A current estimate of 300 lbs/ac or kg/ha results in a Moderate rating for this indicator. Burrograss should make up most of the compostion by weight on this site and now it is approximately half of this. Invasive plants rates Moderate as mesquite (Prosopis glandulosa), creosote (Larrea tridentata) and cholla (Opuntia spinosa) are scattered throughout. Range ratany (Krameria parvifolia) is also observed along with snakeweed (Gutierrezia sarothrae). Only slight limitations exist on the reproductive productivity of the perennial plants onsite and the physical crusts are largely intact with only minor breaks in its' continuity. All other indicators rate None to Slight to Slight to Moderate.

Hydrology - The bareground indicator rated as moderate to extreme. The amount of bareground has possibly increased due to recent dry conditions and also wind and water erosion processes. The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Additionally, the decrease in litter amount can have the effect of increasing the amount of bare soil. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits and Quaternary terrace gravel deposits outcrop in the area.

Wildlife - Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups and annual production as discussed above. Specifically, three biotic indicators fell within the Moderate rating, functional/structural groups, litter amount, annual production, invasive plants. Considering present climate regimes, litter amount and annual production can be expected to fall within the normal range of variability. In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. Wildlife habitat and population indicators rate Moderate, primarily for pronghorn (Antilocapra americana) and a variety of non-game terrestrial species. The composition of vegetation reflects current climatic conditions, e.g., drought for the past several years. Range site production and cover of a variety of preferred plant species for wildlife, such as forbs and woody browse species, and the availability of seed for food and regeneration, is moderated by climate and land use. With respect to Special Status Species, none are known to occur in the area of interest at this time and the habitat and population indicators are, therefore, rated None to Slight.

It is the professional opinion of the Assessment Team that the public land within the Walnut Creek allotment meets the Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. Refer to site notes and recommendations for further information regarding this assessment.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Bare Ground

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations: Although this is a non-permanent study, monitoring should be performed to garner a more recent data set more indicative of present conditions. This allotment along with West Side are leased by the same allotee and the grazing practices and management should be similar.

Wildlife - Consider disposal of this isolated 160-acre parcel of public land as it is surrounded by private land (see maps). No control over livestock grazing can be effectively implemented. Access is controlled by private landowner.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64093-IDSU-A174			
Legal Land Desc	NWNE 28 0150S 0240E Meridian 23	Acreage	240
Ecosite	042CY007NM LOAMY SD-3	Photo Taken	Y
Watershed	13060007110 COTTONWOOD-WALNUT		
Observers	NAVARRO/MCGEE	Observation Date	07/27/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	RF	Soil Taxon Name	REAKOR
Texture Class	NM666 L	Soil Phase	REAKOR
Texture Modifier	NM666 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.42	NOAA Growing Season Precipitation	7.68
NOAA Avg Annual Precipitation	12.52	NOAA Avg Growing Season Precipitation	10.24
Disturbances and Animal Use:	No livestock observed. Past treatment of creosote has invigorated the christmas cholla. Most of the dead treated creosote has a healthy christmas cholla growing in the middle of it.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						

S H	Pedestals and/or Terracettes				X	
Comments:	Occasionally on tobosa.					
S H	Bare Ground		X			
Comments:	Now at 60-70%.					
S H	Gullies				X	
Comments:	Uncommon					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:	Some displacement.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Slight reduction throughout the site.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	Pebbles and rocks have migrated toward the surface and there has been some horizon loss.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	Absence of gramas and dropseed with reduced shrub component.					
B	Plant Mortality/Decadence					X
Comments:						

H B	Litter Amount			X		
Comments:	Falls in the bottom end of the range expected.					
B	Annual Production			X		
Comments:	40-50% of potential is here.					
B	Invasive Plants			X		
Comments:	Mesquite and creosote scattered.					
B	Reproductive Capability of Perennial Plants				X	
Comments:	Only slightly limited.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Physical crusts seen with some breaks in continuity.					
B	Wildlife Habitat			X		
Comments:	Rolling hills grassland with shrub components. Area of concern is an isolated 160-acre parcel of public land.					
B	Wildlife Populations			X		
Comments:	No specific wildlife population data at this time. Species of concern include pronghorn antelope and a variety of non-game terrestrial wildlife species.					
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					
Part 3. Summary						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to	Moderate	Slight to Moderat	None to

			Extreme		e	Slight
S	Soil	0	1	0	7	2
H	Hydrologic	0	1	1	7	2
B	Biotic	0	0	6	3	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

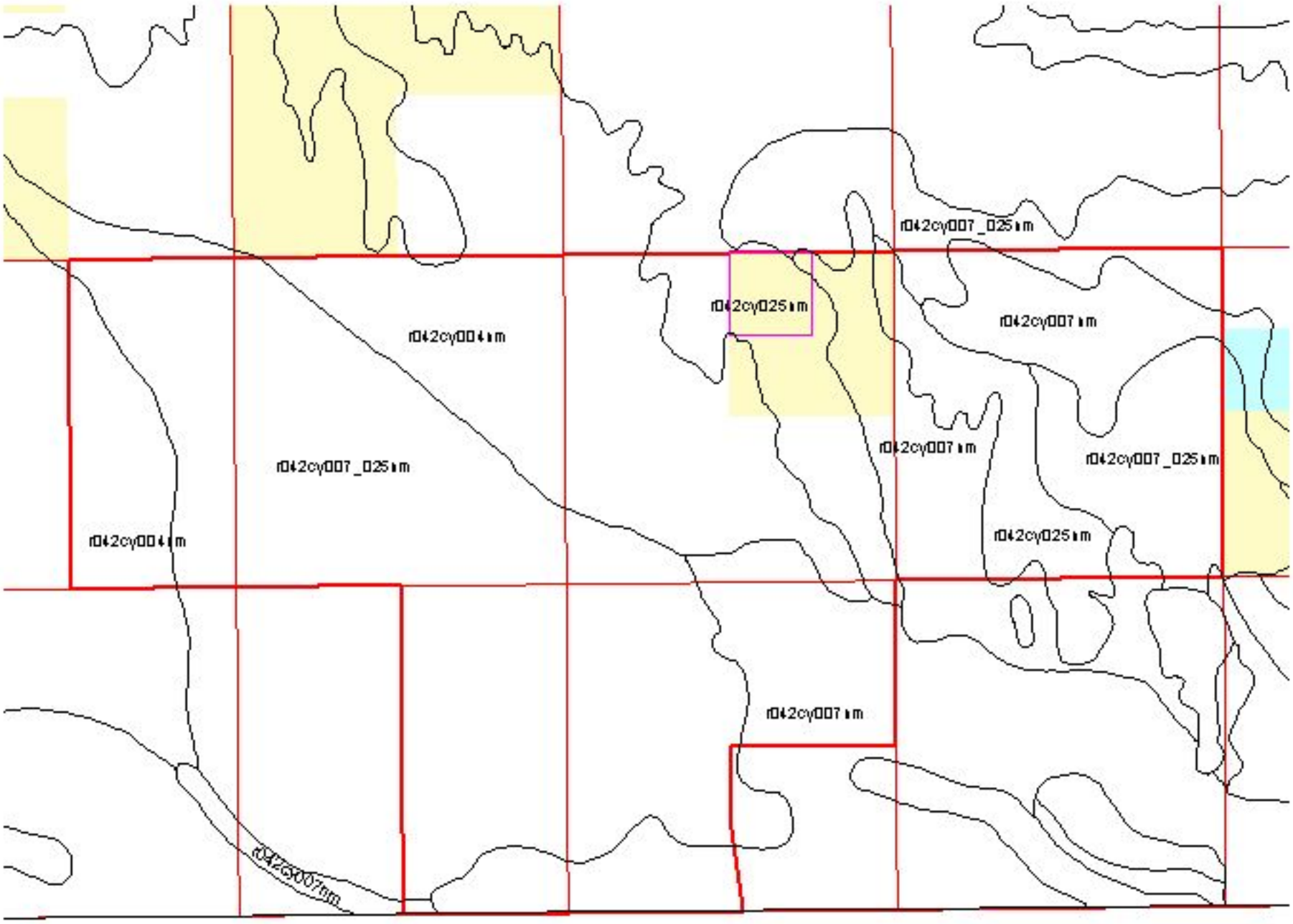
Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Considering the recent drought, the site does not show any signs of degradation. Most of what is compromised is some of the biotics and not so much the soil and hydrologic attributes.	1	0	9
Hydrologic	Most hydrologic attributes fall within the range of variability.	1	1	9
Biotic	Biotics are most compromised at this site when it comes to plants and what should be here. Dropseeds and grama grasses are the components that are missing.	0	6	7

Site Notes: This non-permanent location was gps'd and evaluated. The access is by a locked ranch road gate that begins on private land. Burrograss should be in abundance here, but due to the dry conditions, this species has been knocked back a bit. 1991 figures show burrograss at 81% composition by weight. No other grass besides tobosa approaches this. The ranch road is the only disturbance besides a pasture fence.

Rangeland Health Assessment
Ecological Sites

Allotment ~~64079~~ 64093

T14.R24E



T15S.R24E

0.3 0 0.3 Miles

Public
Study Plots
State
Private
Study Locations
Ecological Sites
Allotment Boundary

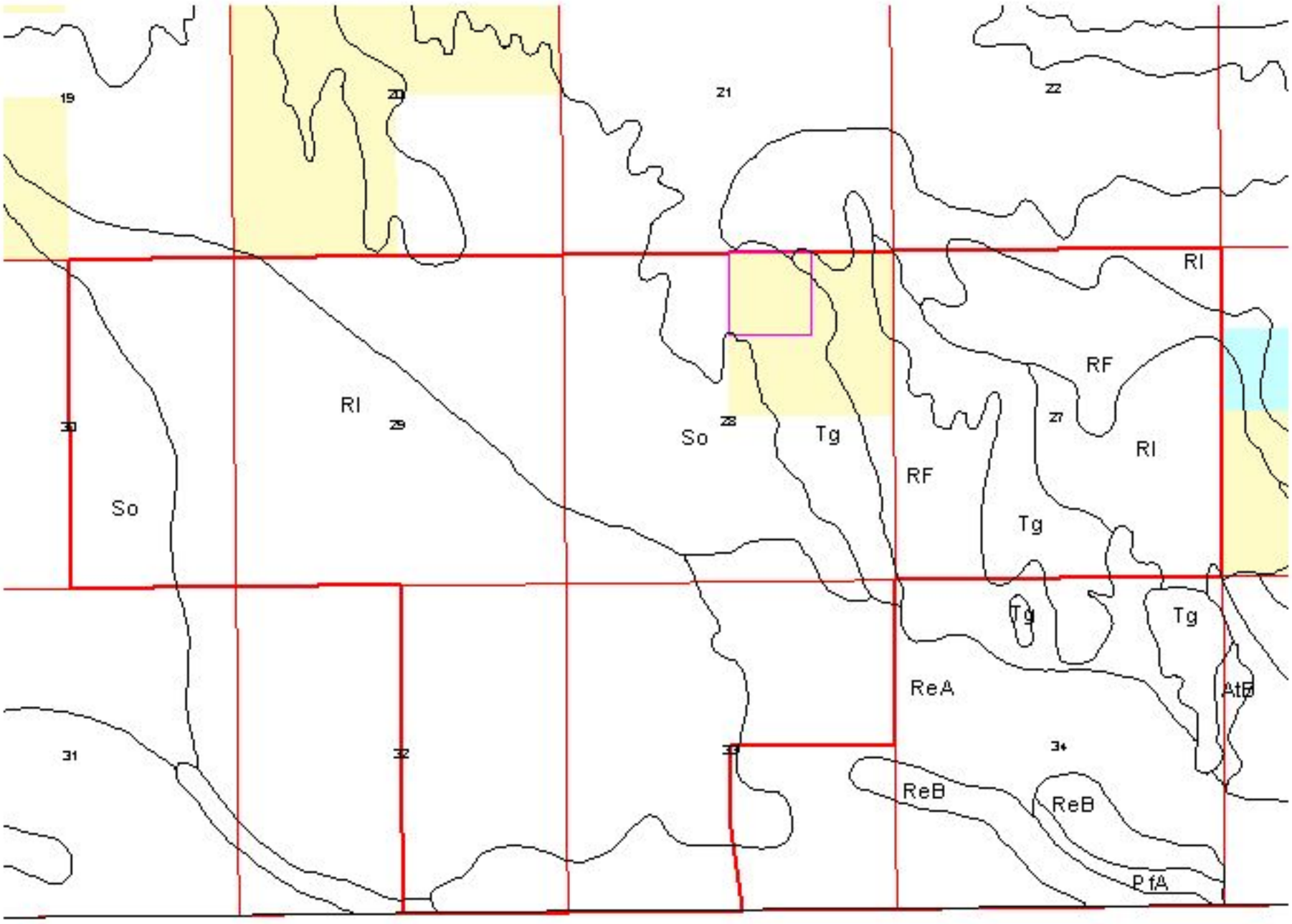
Produced by the Roswell Field Office
GIS Intern on July 25, 2003.

Rangeland Health Assessment
Soil Mapping Units

64093

Allotment ~~64079~~

T14.R24E



T15S.R24E

0.3 0 0.3 Miles

Public

Study Plots

State

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